cations bus **110**. A volatile memory **120** such as a random access memory (RAM) is coupled to bus **110** and may be used to store information and instructions for processor **115**. A non-volatile memory **130** which may be a read-only memory (ROM) is coupled to bus **110**. Non-volatile memory **130** may be used to store static information and instructions that are used by processor **115**. Handheld computer system **100** may further include, a data storage device **140** such as, but not limited to a removable memory card (for example, a secured digital (SD) memory card). A storage device **140** is coupled to bus **110** to store information and instructions to be used by processor **115**. Handheld computer **100** may also include a display **145**, such as but not limited to an LCD display, a flexible display such as an e-paper display (such as E-ink, Smart Paper™, Gyricon Media, APD™ by Citala, etc.), other bistable displays, or any other type of applicable visual display. Display **145** is used for displaying information to the computer user and further for providing a user interface to aid the user in providing input to handheld computer **100**. Further, handheld computer **100** may include a plurality of input/output ports and connections including, but not limited to a serial port **150** and an infrared (IR) port **155**. Communication ports **150** and **155** are coupled to communications bus **110**. A power source, such as a battery **160** is coupled to bus **110** and provides power for devices connected thereto.

**[0019]** In an exemplary embodiment, a pliable sensor **170** is coupled to communications bus **110**. Pliable sensor **170** may be supported by the housing of handheld computer **100**. Flexible or pliable sensor **170** may be used to provide input to handheld computer **100** by a user. Flexible or pliable sensor **170** may be, but is not limited to a layer of flexible electric muscle material formed on the outer surface of handheld computer **100**.

**[0020]** Electric muscle material is a dielectric elastomeric polymer material, sometimes referred to as an electroactive polymer. Electric muscle material has been shown to be useful as a transducer. When the dielectric elastomeric material is stretched, an electrical charge in the material is produced. This electrical charge may be sensed and measured. Conversely, when an electric charge is provided to the dielectric elastomer, deformation of the material may occur. Dielectric elastomeric materials have been demonstrated by Ron Pelrine, et al. of SRI International, Menlo Park, Calif.

**[0021]** Pliable sensor **230** may also be formed of an electrotextile material. Electrotextiles are a soft, flexible, and lightweight sensing and switching fabric. When the fabric is touched, for example, the contact point may be located. The fabric translates electronic impulses, sensed by the fabric field into digital data. Electrotextiles are available from Eleksen Company Ltd., of Buckinghamshire, GB. Further, pliable sensor **230** may be any of a variety of sensors which may sense flexure such as strain gauges and the like. Such sensors may be incorporated into housing **210** and/or display **220**.

**[0022]** Referring now to FIG. **2**, an exemplary embodiment of a handheld computer **200** is depicted. Handheld computer **200** includes a housing **210** supporting computing electronics, as described with respect to FIG. **1**, or other similar electronics. Handheld computer **200** also includes a display **220** configured to display information to a user. A display **220** may be used to display any type of visual information, including, but not limited to user interfaces, pictures, text, video, and the like. In an exemplary embodiment, handheld computer **200** may include a pliable sensor **230**. Pliable sensor **230** may be any of a variety of pliable and/or flexible sensors including, but not limited to electrotextiles, and electroactive polymers for example electronic muscle material. Pliable sensor material **230** may be located on the exterior of the housing along edges of the housing or alternatively may be wrapped around the back of handheld computer **200**. In yet another configuration, pliable sensor **230** may be located below the surface of housing **210** if housing **210** is also flexible and/or pliable.

**[0023]** In an exemplary embodiment, housing **210**, display **220** as well as pliable sensor **230** are all flexible materials and the entirety or portions of handheld computer **200** may be flexed via input forces provided by a user. Pliable sensor **230** then senses such flexure and converts such flexure into an electrical signal which is interpreted by processor **115** as a particular type of input to handheld computer **200**. Specific flexures may be correlated with particular actions on handheld computer **200**. For example, flexure in one direction may cause scrolling of information on display **220**, moving through various fields, selecting menu options, selecting various applications, and providing other various functions. Further, pressure may be applied, by the hand of a user, to particular areas of sensor **230**. Electrical signals generated by such pressure may be correlated with specific functions of handheld computer **200** including navigation of information on display **220**.

**[0024]** Referring now to FIG. **3**, an alternative handheld computer configuration **300** is depicted. Handheld computer **300** includes a housing **310**, a display **320** and a pliable sensor **230**. Pliable sensor **230** is formed around the perimeter of handheld computer **300**. In an exemplary embodiment, pliable sensor **330** may be an electronic muscle material or other electroactive polymeric material or pliable sensor **330** may be an electrotextile material. Utilizing the pliable sensor structure depicted in FIG. **3**, a user may provide a variety of force inputs including but not limited to pressure on sides of the device or at certain points on the perimeter of the device indicated by arrows **340**. A user may also twist the device by deflecting corners of the device, for example, a user may deflect inwardly the upper right-hand corner of the device in order to effectuate a certain action or function on display **320** as indicated by arrow **350**. Similarly, other corners of the device may be flexed inwardly such as the lower left-hand corner indicated by arrow **360**. In another exemplary embodiment, a user may deflect both sides of the device simultaneously as indicated by arrows **370**. Further, other inputs and flexures may be provided by deforming pliable sensor **330** of handheld computer **300**.

**[0025]** Referring now to FIG. **4**, a hand **240** of a user of handheld computer **200** is depicted. Hand **240** grasps handheld computer **200** with fingers or other portions of hand **240** covering portions of pliable sensor **230**. In a particular exemplary embodiment, with pliable sensor **230** being an electroactive polymeric material, handheld computer **200** may be configured to sense the location of hand **240** grasping device **200**. In such a situation, handheld computer **200** may be configured to automatically provide appropriate charges to electroactive polymeric sensor **230** to provide protuberances of deformed electroactive polymer at certain areas on the electroactive polymer, for example below the fingertips of hand **240** in order to provide buttons or bumps. In an exemplary embodiment, sensor **230** and associated software may be configured to learn and/or correlate certain deformations of pliable sensor **230** with specific actions on the device. In an alternative embodiment, a user may be able to manually con-